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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.  |
|--|-------------|----------------------|---------------------|-------------------|
| 09/982,171   | 10/19/2001  | Gyu Hyeong Cho       | CHOG3001/EM/7318    | 7802              |
| 23364  | 7590        | 08/18/2005           | EXAMINER            |                   |
| BACON & THOMAS, PLLC<br>625 SLATERS LANE<br>FOURTH FLOOR<br>ALEXANDRIA, VA 22314 |             |                      |                     | ETTEHADIEH, ASLAN |
| ART UNIT   |             | PAPER NUMBER         |                     |                   |
|  |             | 2637                 |                     |                   |

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

S/P

|                              |                              |                     |
|------------------------------|------------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b>       | <b>Applicant(s)</b> |
|                              | 09/982,171                   | CHO, GYU HYEONG     |
|                              | Examiner<br>Aslan Ettehadieh | Art Unit<br>2637    |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 10/19/2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1, 11-17 is/are rejected.  
 7) Claim(s) 2-10 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 19 October 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/24/2002</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION*****Drawings***

The drawings are objected to because of spelling in figure 3A: element 110 is labeled as "limitier" and should be labeled as "limiter". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

1. Claims 2 – 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 11, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Lorenz (US 6007368).

3. Regarding claim 1, Lorenz discloses a data communications system (col 2 lines 41 – 42), which comprises: a first node (the first node is interpreted as elements 18, 20, and 28 of figure 1B) for transmitting an output digital signal to a second node (the second node is interpreted as elements 24, 26, and 22 of figure 1B) through a transmission line (figure 1B elements 30 and 32) and receiving an input digital signal from the second node through a reception line (figure 1B elements 34), wherein the first node having a transmission port for transmitting the output digital signal (elements 18 and 20 of figure 1B serves the function of having a transmission port for transmitting the output digital signal) and a reception port for receiving the input digital signal (element 28 of figure 1B serves the function of having a reception port for receiving the input digital signal; and a signal processing amplification block (figure 1B elements 18, 20, 22, 24, 26, and 28) for compensating an attenuation of the input digital signal (differential line drivers inherently compensating an attenuation of the input digital signal) and

preventing a crosstalk between the transmission line and the reception line (col 2 lines 65 – 67), wherein an input port of the signal processing amplification block is connected to the second node through the reception line and an output port of the signal processing amplification block is connected to the reception port (col 2 line 67 and col 3 lines 1 – 2).

4. Regarding claim 11, Lorenz discloses all limitations of claim 11 as analyzed in claim 1 above. Lorenz discloses the data communications system of claim 1, which further comprises an output signal amplification circuit (figure 1B element 18) for compensating the attenuation of the output digital signal, wherein an input port of the output signal amplification circuit is connected to the first node through the transmission line and an output port of the output signal amplification circuit is connected to the second node (col 2 line 67 – col 3 lines 1 – 2).

5. Regarding claim 12, Lorenz discloses all limitations of claim 12 as analyzed in claim 11 above. Lorenz discloses the data communications system of claim 11, wherein the output signal amplification circuit matches an output impedance thereof with an impedance of the transmission line (col 6 line 60 – col 7 line 9).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lorenz (US 6007368) in view of Fenner (US 5559519).

Regarding claim 13, Lorenz discloses all limitations of claim 13 as analyzed in claim 1 above. Lorenz further discloses a method to prevent crosstalk between the transmission line and the reception line (col 2 line 65 – col 3 line 10). However, Lorenz does not disclose that a regulating block is coupled to the amplification device, for generating a control signal to alter an amplification gain of the amplification device.

In the same field of endeavor, however, Fenner discloses a regulating block is coupled to the amplification device (col 3 lines 47 – 52), for generating a control signal to alter an amplification gain of the amplification device (col 3 lines 60 – 63).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use a regulating block is coupled to the amplification device, for generating a control signal to alter an amplification gain of the amplification device as taught by Fenner in Lorenz's data communications system in order to minimize the error in the signal producing a cleaner signal.

7. Claims 14, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorenz (US 6007368) in view of Fenner (US 5559519) and in further view of Smith et al. (US 6775112).

8. Regarding claim 14, Lorenz in view of Fenner discloses all limitations of claim 14 as analyzed in claim 13 above. Lorenz in view of Fenner further discloses the data communications system from claim 13 has a regulating block. However, Lorenz in view

of Fenner does not discloses that a regulating block includes: a circuit for rectifying the portion of the output digital signal or the noise signal; and a circuit for generating the control signal based on a capacity of the rectified signal to transmit the control signal to the amplification device.

In the same field of endeavor, however, Smith discloses that a regulating block includes: a circuit for rectifying the portion of the output digital signal or the noise signal (col 6 lines 12 – 17); and a circuit for generating the control signal based on a capacity of the rectified signal to transmit the control signal to the amplification device (col 6 lines 18 – 26).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to have a regulating block include: a circuit for rectifying the portion of the output digital signal or the noise signal; and a circuit for generating the control signal based on a capacity of the rectified signal to transmit the control signal to the amplification device as taught by Smith in system of Lorenz in view of Fenner in order to remove excess voltage from the system for improving the electrostatic discharge protection.

9. Regarding claim 15, Lorenz in view of Fenner in further view of Smith discloses all limitations of claim 15 as analyzed in claim 14 above. However, Lorenz does not disclose that an input end of the regulation block is linked to the transmission port or the transmission line at a position close to the transmission port.

In the same field of endeavor, however, Fenner discloses that an input end of the regulation block is linked to the transmission port or the transmission line at a position close to the transmission port (figure 1 elements 42 and 14).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to have the input end of the regulation block is linked to the transmission port or the transmission line at a position close to the transmission port as taught by Fenner in system of Lorenz in view of Fenner in further view of Smith to minimize any residual errors in order to accurately calibrate active phased arrays.

10. Regarding claim 16, Lorenz in view of Fenner discloses all limitations of claim 16 as analyzed in claim 13 above. Lorenz in view of Fenner discloses the data communications system of claim 13, having a regulating block. However, Lorenz in view of Fenner does not discloses that a regulating block includes: a circuit for rectifying the portion of the input digital signal or the noise signal; and a circuit for generating the control signal based on a capacity of the rectified signal to transmit the control signal to the amplification device.

In the same field of endeavor, however, Smith discloses that a regulating block includes: a circuit for rectifying the portion of the input digital signal or the noise signal (col 5 lines 21 – 23); and a circuit for generating the control signal based on a capacity of the rectified signal to transmit the control signal to the amplification device (col 5 lines 21 – 29).

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Therefore it would have been obvious to one skilled in the art at the time of invention was made to have a regulating block include: a circuit for rectifying the portion of the input digital signal or the noise signal; and a circuit for generating the control signal based on a capacity of the rectified signal to transmit the control signal to the amplification device as taught by Smith in system of Lorenz in view of Fenner in order to remove excess voltage from the system for improving the electrostatic discharge protection.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lorenz (US 6007368) in view of Fenner (US 5559519) and in further view of Smith et al. (US 6775112) and in further view of Reits (US 6091360).

Lorenz in view of Fenner and in further view of Smith discloses all limitations of claim 17 as analyzed in claim 16 above. However, Lorenz in view of Fenner and in further view of Smith does not discloses that an input end of the regulating block is linked to the reception line at a position close to the input port of the amplification device.

In the same field of endeavor, however, Reits discloses that an input end of the regulating block is linked to the reception line at a position close to the input port of the amplification device (col 3 lines 2 – 5 and col 3 line 66 – col 4 line 5).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to have the input end of the regulating block is linked to the

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reception line at a position close to the input port of the amplification device for trimming purposes to provide for a cleaner signal.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aslan Ettehadieh whose telephone number is (571) 272-8729. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aslan Ettehadieh  
Examiner  
Art Unit 2637

AE



JAY K. PATEL  
SUPERVISORY PATENT EXAMINER